



FCC RADIO EXPOSURE TEST REPORT

FCC ID : MSQ-RTACRW00
Equipment : MAP-AC1750
Brand Name : ASUS
Model Name : MAP-AC1750
Applicant : ASUSTeK Computer Inc
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan
Manufacturer : ASUSTeK Computer Inc
4F, No. 150, Li-Te Rd., Peitou, Taipei 112, Taiwan
Standard : 47 CFR Part 2.1091

The product was received on Oct. 03, 2017, and testing was started from Mar. 27, 2018 and completed on Apr. 03, 2018. We, SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.


Approved by: Sam Chen

SPORTON INTERTIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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Photographs of EUT v01



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Reviewed by: Sam Chen

Report Producer: Sandy Chuang



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM)
5GHz WLAN	5150-5250 5725-5850	5180-5240 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
Bluetooth	2400-2483.5	2402-2480	BR / EDR: FHSS (GFSK / $\pi/4$ -DQPSK / 8DPSK) LE: DSSS (GFSK)

1.2 Testing Location

Testing Location		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.

1.3 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FA7N0218

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Changing the testing tool command	Re-evaluated Maximum Permissible Exposure of LE

Note: Maximum Permissible Exposure of 2.4GHz and 5GHz band 1/4 are based on original report.

2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;G1D	2.41	29.72	32.13	0.50	32.63	1.83231	20	0.36471	1.00000
5.2G;D1D	2.81	28.98	31.79	0.50	32.29	1.69434	20	0.33724	1.00000
5.8G;D1D	2.80	29.15	31.95	0.50	32.45	1.75792	20	0.34990	1.00000
2.4G;BT-LE	2.00	-1.71	0.29	0.50	0.79	0.00120	20	0.00024	1.00000
2.4G;BT-BR	2.00	4.29	6.29	0.50	6.79	0.00478	20	0.00095	1.00000
2.4G;BT-EDR	2.00	4.61	6.61	0.50	7.11	0.00514	20	0.00102	1.00000

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz + WLAN 5GHz + Bluetooth

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	2.41	29.72	32.13	0.50	32.63	1.83231	20	0.36471	1	0.36471
5.8G;D1D	2.80	29.15	31.95	0.50	32.45	1.75792	20	0.34990	1	0.34990
2.4G;BT-EDR	2.00	4.61	6.61	0.50	7.11	0.00514	20	0.00102	1	0.00102
									Sum Ratio	0.71563
									Ratio Limit	1

————THE END————